BAT1000

1A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

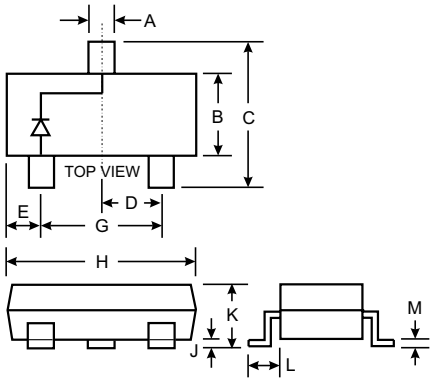
NEW PRODUCT

Features

- Very Low Forward Voltage Drop
- High Conductance
- For Use in DC-DC Converter, PCMCIA, and Mobile Telecommunications Applications

Mechanical Data

- Case: SOT-23, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.008 grams (approx.)
- Marking: K79



SOT-23		
Dim	**Min**	**Max**
A	0.37	0.51
B	1.19	1.40
C	2.10	2.50
D	0.89	1.05
E	0.45	0.61
G	1.78	2.05
H	2.65	3.05
J	0.013	0.15
K	0.89	1.10
L	0.45	0.61
M	0.076	0.178
All Dimensions in mm		

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Average Rectified Current (Note 1)	I_O	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	5.5	A
Power Dissipation (Note 1)	P_d	500	mW
Typical Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	200	°C/W
Operating Temperature Range	T_j	-40 to +125	°C
Storage Temperature Range	T_{STG}	-40 to +150	°C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	40	45	—	V	I_R = 300uA
Forward Voltage (Note 2)	V_F	—	225 235 290 340 390 420 475	270 290 340 400 450 500 600	mV	I_F = 50mA I_F = 100mA I_F = 250mA I_F = 500mA I_F = 750mA I_F = 1000mA I_F = 1500mA
Maximum Reverse Current (Note 2)	I_R	—	50	100	μA	V_R = 30V
Junction Capacitance	C_j	— —	175 25	— —	pF pF	V_R = 0V, f = 1.0MHz V_R = 25V, f = 1.0MHz

Notes: 1. Valid Provided that terminals are kept at ambient temperature.
2. t_p < 300μs, duty cycle < 2%

NEW PRODUCT

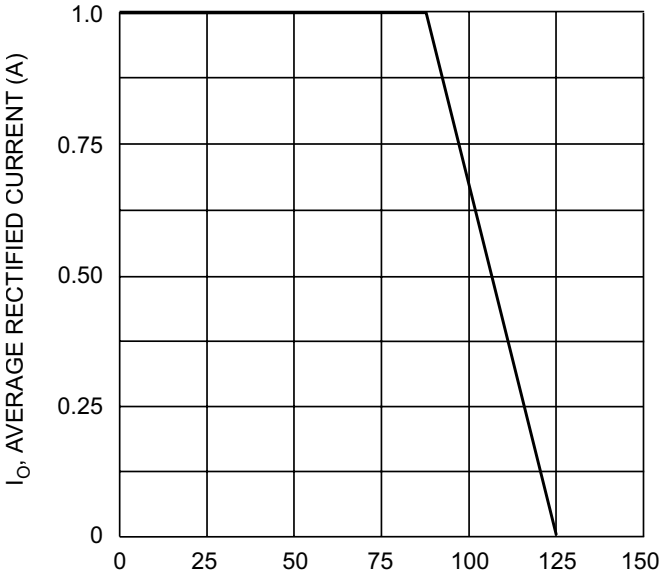


Fig. 1 Forward Current Derating Curve

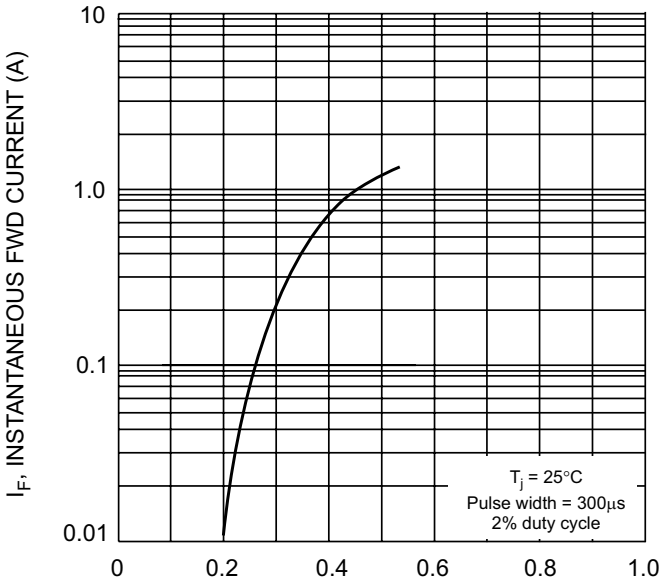


Fig. 2 Typical Forward Characteristics

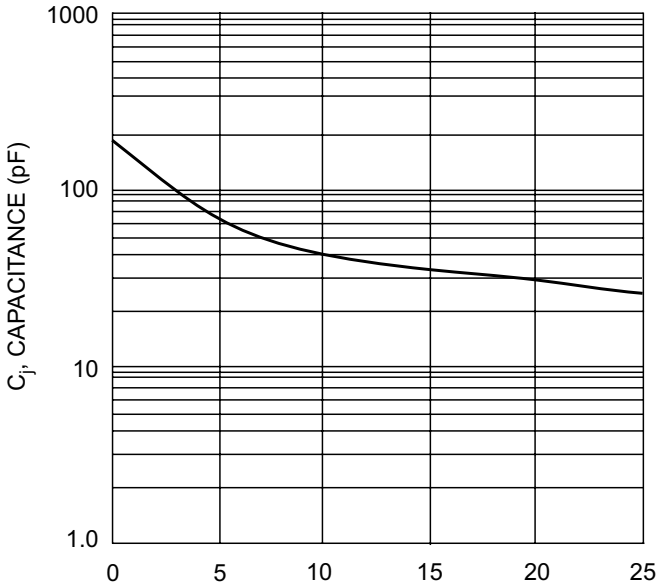


Fig. 3 Typ. Junction Capacitance vs Reverse Voltage

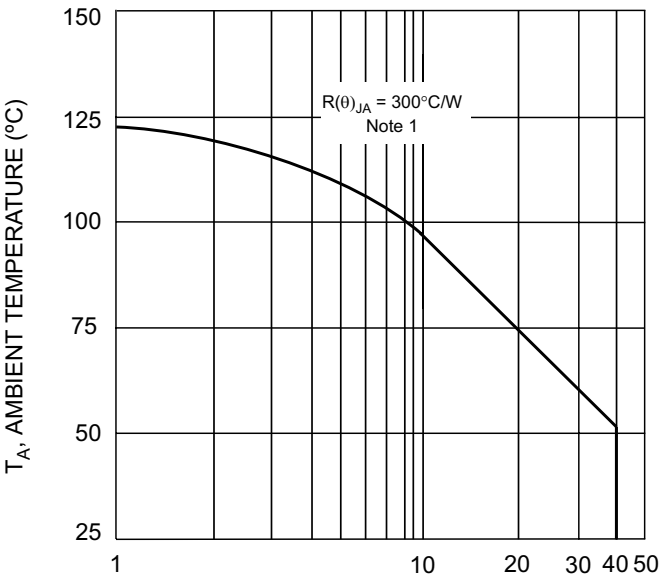


Fig. 4 Typical Safe Operating Area

Note: 1. Assumed application thermal conditions.
$R\theta_{JA}$ varies depending on application.